



## Biology Toolkit: Indicator 3.5.2

Student Handout: Biology: Indicator 3.5.2

### Goal 3.0 Concepts Of Biology

Expectation 3.5 The student will investigate the interdependence of diverse living organisms and their interactions with the components of the biosphere.

Indicator 3.5.2 The student will analyze the interrelationships and interdependencies among different organisms and explain how these relationships contribute to the stability of the ecosystem.

Assessment Limits:

diversity

succession

trophic level (producer; consumer: herbivore, carnivore, omnivore, scavenger; decomposer)

niche (role of organism within an ecosystem)

pyramid (energy, biomass)

### Public Release - Selected Response Item - Released in 2009

Biology Indicator 3.5.2

Use the information below to answer the following item.

Scientists genetically modified a variety of corn to protect it against pests like the corn borer. The corn borer is an insect caterpillar that feeds on the corn stalk, which weakens the stalk and makes it fall over. A new gene in the genetically modified corn causes the plant to produce a chemical that is toxic to the corn borer. Some people are concerned that the genetically modified corn could harm other insects such as the monarch butterfly caterpillar. The monarch caterpillar eats leaves of milkweed plants that might be coated with toxic corn pollen. However, not all researchers agree with the concerns regarding the monarch butterfly caterpillar. They state that it is unusual for large amounts of harmful corn pollen to be found on milkweed leaves. Also, only a small percentage of caterpillars feed on the milkweed plants near corn fields.

Which of these describes the trophic level of the corn borer?

- A. carnivore
- B. herbivore
- C. producer
- D. decomposer

Correct Answer

B. herbivore

## Item

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